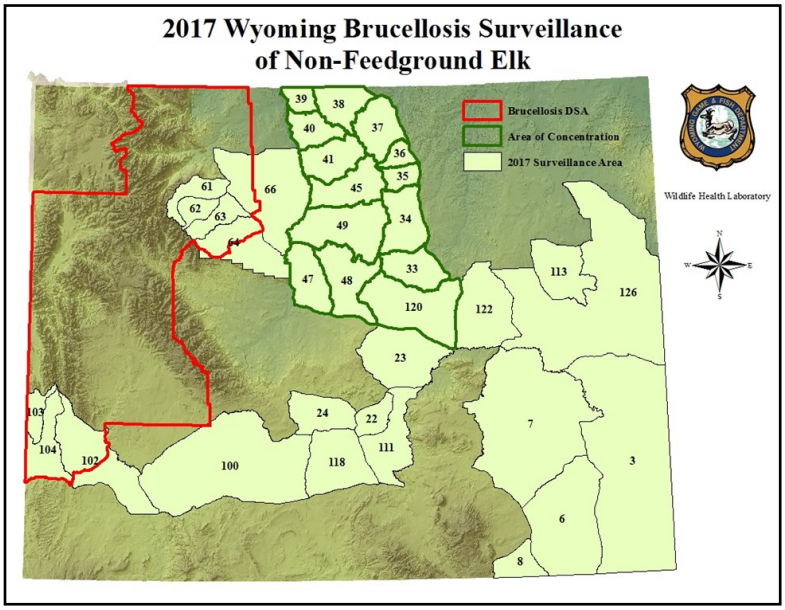
July 2017

Wildlife Health Laboratory

Brucellosis Surveillance:
Brucellosis Lab Assistant, Kylie Sinclair, continues assembly work of blood kits for brucellosis surveillance in hunter-killed elk. As of the end of June, over 8,000 blood kits have been assembled; with a final goal of 10,000 kits by summer's end. The 2017 surveillance will be much like last year's effort, where we will once again intensively concentrate on the Bighorn Mountains, but will also cover hunt areas surrounding the DSA border. In addition, we will also be covering the eastern portion of the state as part of our statewide surveillance effort. This is an important program and we are always looking for blood samples from elk to document where this disease occurs and where it doesn't – so please keep us in mind whenever you have your hands on elk and can get us a blood sample!



Other Happenings:
Hally's manuscript "Development and validation of a real-time PCR specific for the leukotoxin gene of *Bibersteinia trehalosi*" was recommended for publication by the Journal of Veterinary Diagnostic Investigation with minor edits. Jessica began work investigating alternative methods of DNA extraction to improve detection on our Adenovirus PCR. Kylie continues her work on the brucellosis and bighorn sheep surveillance databases.

Hank attended a presentation on recommendations for carcass disposal in Jackson Hole. This is complicated issue with no easy solution on what to do with deer and elk carcasses once the area landfill closes in about a year. Recommendations included incineration and alkaline hydrolysis digestion, but both solutions come with their own problems and a high price tag. Hank also presented our brucellosis surveillance in non-feedground elk to USDA-APHIS during their brucellosis review of Wyoming, Idaho and Montana.

Veterinary Services Staff

Branch Supervisor/Wildlife Veterinarian: Dr. Mary Wood

Laboratory Supervisor: Hank Edwards

Senior Lab Scientist: Hally Killion

Senior Lab Scientist: Jessica Jennings-Gaines

Brucellosis Lab Assistant: Kylie Sinclair

Wildlife Disease Specialist: Terry Creekmore

TWRC Manager: Matt Huizenga

Wildlife Biologist: Cole Hansen

Biologist: Sam Lockwood

Wildlife Necropsy Summary

Fourteen diagnostic cases were submitted for necropsy during June. Eight of these cases are pending.

Species	Date Received	County	Diagnosis
Bat	6/7/2017	Fremont	Rabies negative
Ruffed grouse	6/7/2017	Park	Undetermined– subcutaneous hemorrhage
Sage grouse	6/16/2017	Carbon	Undetermined
Bat	6/22/2017	Fremont	Rabies negative
Bat	6/27/2017	Fremont	Rabies negative
Badger	6/28/2017	Fremont	Rabies negative

Disease of the Month: **West Nile Virus**

West Nile Virus (WNV) is a mosquito-borne disease primarily affecting birds, but also horses, humans, and other mammals. This disease was first identified in the US in 1999 and was first seen in Wyoming in August of 2002. By 2004, the virus had spread to nearly all of the continental US, 7 Canadian provinces, Mexico, and parts of the Caribbean.

Raptors can be very susceptible to West Nile Virus

West Nile virus has been identified in over 250 species of birds and several wild mammals including: deer, bighorn sheep, mountain goats, bats, and squirrels. Cases in mammals are uncommon, but WNV can cause significant mortality in avian species such as crows, jays, magpies, hawks, owls, and eagles. Sage grouse are particularly susceptible, and significant mortality events have occurred in the Powder River Basin of Wyoming.

WNV is transmitted primarily through mosquitoes. The virus is passed between birds and mosquitoes, with occasional cases spilling over into mammals such as humans or horses. Humans and horses are often referred to as "dead end hosts" because they cannot transmit the virus back to mosquitoes, therefore they do not contribute to the transmission cycle.

Temperature has a major influence on WNV. As temperatures get warmer over the summer, mosquitoes develop more rapidly and the virus multiplies more quickly inside the mosquitoes. So while WNV cases can be seen any time when mosquitoes are active, most cases are seen during mid-to-late summer when temperatures are higher.

Nearly 80% of humans infected with WNV develop no symptoms at all. Of the remaining 20% of cases, most will develop a fever with other symptoms similar to the flu such as headache, body aches, joint pains, vomiting, diarrhea, or rash. Most people with this type of WNV disease recover completely. Less than 1% of people who are infected will develop a serious neurologic illness with inflammation of the brain or surrounding tissues. While people of any age can become ill from WNV, those over 60 are most at risk to develop serious symptoms.

You can reduce the chance of contracting WNV by wearing long sleeves, keeping screens in good repair, and using insect repellent (such as DEET) whenever you are outdoors in the summertime, particularly if you are over 60. If you have any of the symptoms described above and suspect you have been bitten by a mosquito, contact your health provider for evaluation. If you observe dead crows, jays, magpies, hawks, owls, or eagles this summer, please contact the Wildlife Health Laboratory to discuss sample submission.